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ABSTRACT

Contracts and prescriptions can provide an effective individualized method for teaching students how to learn. A contract may be formulated by any interested party and is an agreement to achieve stated goals by a described method. Prescriptions are teacher-initiated as a result of a specific diagnosis of a student's needs. In an individualized program, prescriptions can be used to insure pupil mastery of essential basic skills, while contracts can enable pupils to progress beyond minimal essentials by encouraging responsible, independent study. Individualized programs developed at a high school and an elementary school illustrate the use of each method. Faculty at the schools reported that students were better able to plan and evaluate the use of materials, and that the learners of lower ability and motivation participated successfully without hindering the progress of the more able learners. Suggestions for using prescriptions and contracts to individualize instruction include: (1) Keep lesson plans and contracts short and simple; (2) Acquire and use a wide variety of instructional materials; (3) Provide receptive teachers with inservice training; and (4) Build incentives into the plan and evaluate students so that they can learn how to evaluate their own work. (FG)

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USING CONTRACTS AND PRESCRIPTIONS FOR INDIVIDUALIZING INSTRUCTION

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EUGENE R. HOWARD

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in the

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ABOUT THE AUTHOR

Eugene R. Howard currently serves as Director of Accreditation and Accountability, Colorado Department of Education, Denver. As superintendent-principal of the Ridgewood High School in Norridge, Illinois and as Director of the University School, Fort Lauderdale, Florida, Mr. Howard had direct experience in the designing of individualized learning systems.

Mr. Howard is the author of several articles on the subject of individualizing instruction including one published in The Encyclopedia of Education.[1]

1 "Individualizing Instruction", The Encyclopedia of Education, Macmillan, 1971, pp. 101-105.

USING CONTRACTS AND PRESCRIPTIONS FOR INDIVIDUALIZING INSTRUCTION

Eugene R. Howard

I. CONTRACTS AND PRESCRIPTIONS - WHY USE THEM?

Contracts and prescriptions are two related devices which are useful to teachers desiring to personalize and individualize instruction.

Contracts

The term contract may be defined as a formal agreement between a teacher and a learner regarding what the learner will do to achieve a previously-defined objective. Contracts come in many formats but they usually contain the following components. (See Figure 1).

1. A statement of what is to be learned (the objective),
2. A description of the learning activities in which the student will be engaged, and
3. A description of how the results of the learning experience will be evaluated.

Some learning contracts also provide a rationale statement describing why the learner wishes to achieve the objectives. Other contracts may also provide the pupil with a list of resources which can be used during the study.

A contract may be simply described as a lesson plan which has been prepared for individual learners rather than for teachers.

Basically, there are three types of contracts (Figure 2).

1. Contracts prepared by teachers and chosen by learners,
2. Contracts prepared jointly by teachers and learners, and
3. Contracts prepared by learners and agreed to by teachers.

FIGURE 1

BASIC COMPONENTS OF A LEARNING CONTRACT

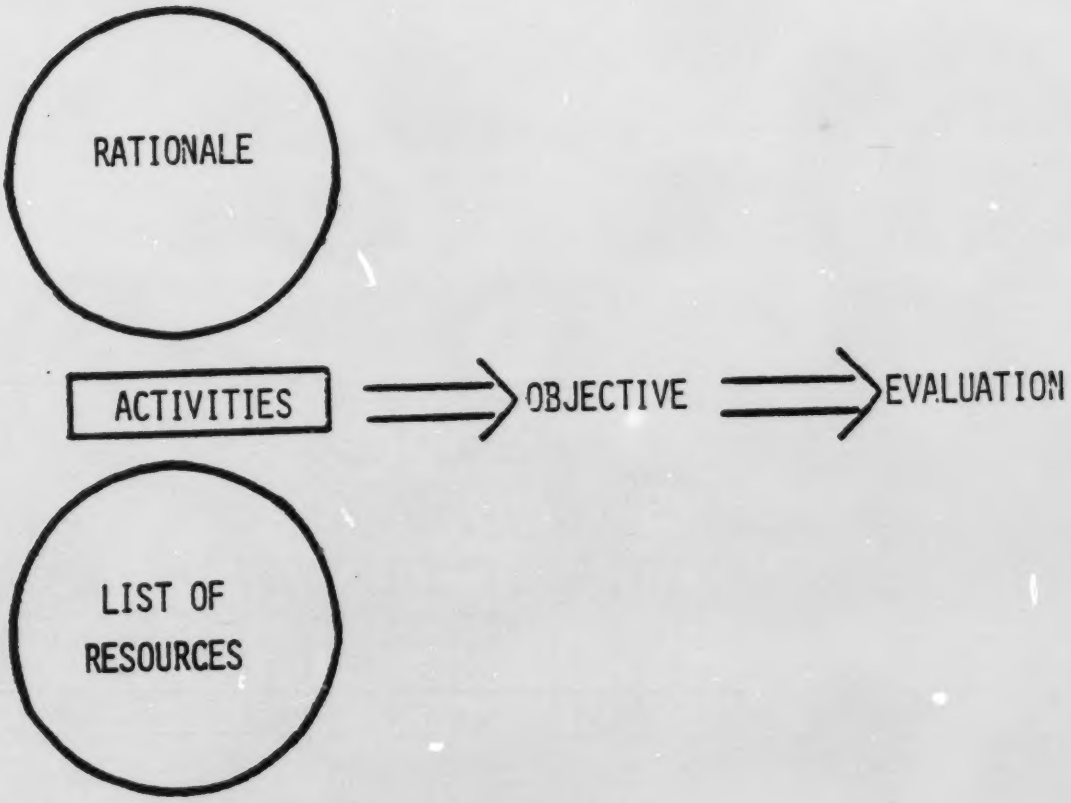


FIGURE 2

THREE KINDS OF LEARNING CONTRACTS

1. TEACHER-PREPARED

   LEARNER CHOOSES

2. CONTRACTS PREPARED JOINTLY

   BY TEACHERS AND LEARNERS

3. LEARNER PREPARED AND

   TEACHER APPROVED

FIGURE 3
RIDGEWOOD HIGH SCHOOL
TEACHER-STUDENT CONTRACT

Student's Name *Judy Sell* I.D.No. *79300*

Course Number *994* Course Title *Student Volunteer Program*

This contract is an agreement to complete additional work for added credit in the amount of *1* credits.

Comments: This section should be used to specifically state what will be done, what dates are important in the work contract, and any other pertinent information.

During the 1976-77 school year Judy will act as coordinator of the Here to Help Program, a service to the aged population of our community. The Here to Help Program is associated with the Senior's Assistance Center at 7600 West Leland in Norridge.

In her role as coordinator of the Here to Help Program, Judy will work out of the Office of School Community Services (Rooms 237-A and 115) or the Senior's Assistance Center. She will be involved on an average of 5 hours per week. Her general duties will include such things as: handling and processing requests for assistance from senior citizens; recruiting student volunteers to perform the services requested; publicizing the Here to Help Program to the student community; monitoring what volunteers do and submitting a monthly report of activities.

The student should understand that by entering into this contract the student's achievement will be based on this agreement and he will be so graded. Grade will become part of permanent record. An "F" will be recorded when credit is dropped.

This contract (4 copies) will not go into effect until student, parent, teacher, and Administrators have approved. Upon approval the student, teacher, Guidance Office, and Operational Division will be given a copy for their files.

I have read the above and agree to all the provisions.

Student Signature _____

Parent Signature _____

Teacher Signature _____

Instructional Div. _____
Administrator

Guidance Office _____
Counselor

Operational Division _____
Administrator

FOR OFFICE USE
Title: *Stu Vol Prog*
Number *994*

FIGURE 4
RIDGEWOOD HIGH SCHOOL
TEACHER-STUDENT CONTRACT

Student's Name *Wayne Love* I.D.No. *77424*

Course Number *451* Course Title *Physics II*

This contract is an agreement to complete additional work for added credit in the amount of *1/2* credits.

Comments: This section should be used to specifically state what will be done, what dates are important in the work contract, and any other pertinent information.

Examination of lasers and holography and attempt to produce a hologram. The evaluation will be based on:

1) *depth of research*
2) *scientific evaluation of errors and problems of experiment rather than on finished product.*

The student should understand that by entering into this contract the student's achievement will be based on this agreement and he will be so graded. Grade will become part of permanent record. An "F" will be recorded when credit is dropped.

This contract (4 copies) will not go into effect until student, parent, teacher, and Administrators have approved. Upon approval the student, teacher, Guidance Office, and Operational Division will be given a copy for their files.

I have read the above and agree to all the provisions.

Student Signature _____

Parent Signature _____

Teacher Signature _____

Instructional Div. _____
Administrator

Guidance Office _____
Counselor

Operational Division _____
Administrator

FOR OFFICE USE
Title: *Physics*
Number *451*

FIGURE 5

FOUR CHARACTERISTICS OF PRESCRIPTIONS

1. THEY RESULT FROM A SPECIFIC DIAGNOSIS OF A STUDENT NEED

2. THEY ARE INDIVIDUALIZED (FOUR STEPS)

3. THEY ARE USED TO ENSURE MASTERY OF ESSENTIAL SKILLS

4. THEY ARE ASSIGNMENTS GIVEN BY A TEACHER (NOT PUPIL-INITIATED)

FIGURE 6

THE DIAGNOSIS-PRESCRIPTION PROCESS

FIVE STEPS

1. ESSENTIAL SKILLS ARE DEFINED AND LISTED

2. THE PUPIL TAKES A DIAGNOSTIC TEST

3. THE PUPIL RECEIVES A "PRESCRIPTION" DEFINING NEEDED LEARNING ACTIVITIES

4. THE PUPIL IS RE-TESTED TO VERIFY MASTERY, AND

5. RESULTS OF THE LEARNING PROCESS ARE RECORDED AND REPORTED TO PARENTS

Usually contracts are agreements between one individual teacher and one learner. Occasionally, however, more than one teacher can be included in a contract. Contracts can also be written for a small group of learners who will work on a project together. Such groups of learners are usually called learning teams.

Figure 3 shows a common format for a learning contract.

Figures 3 and 4 show two real contracts negotiated by a teacher and a pupil in the Ridgewood High School in suburban Chicago.

Prescriptions

Prescriptions differ from contracts in four major ways (See Figure 5):

1) They result from a specific diagnosis of a student need. The process usually consists of five steps (Figure 6).
   - -- Skills which are considered essential to continued student progress are defined and listed.
   - -- The pupil is given a diagnostic test to determine which skills have been mastered and which have not.
   - -- An individualized lesson plan previously prepared by the teacher (or obtained from a publisher) is given to the pupil. This lesson plan, called a "prescription" is designed to enable the student to learn a skill which he has not yet mastered.
   - -- Once the learner has completed the prescribed learning activities he is tested to verify that he has mastered the skill, and
   - -- A record is kept of skills mastered. Parents are informed periodically regarding the pupil's progress in mastering essential skills.
2) Unlike contracts, which may be with a learning team, prescriptions are completely individualized. Others may assist the learner but he proceeds through the learning activities alone.

3) Prescriptions are generally used only in regard to essential skills which must be mastered by all pupils and for skills which have been pre-determined. Contracts may be designed to achieve learning objectives which are not considered essential for all pupils but which may be considered important for a pupil with individual needs or interests.

4) Prescriptions are assignments given by a teacher. Pupils usually have little to say about which learning activities are prescribed. Contracts, however, are much more flexible. Contracts are usually the result of a planning process in which pupils have a lot to say about what they will learn, where they will learn, who will help them learn, and how they will be evaluated.

How Prescriptions and Contracts are Used in Individualized Programs

Prescriptions and Contracts are essential elements in any individualized curriculum. To see why this is so, let's look at two models of individualized curricula.

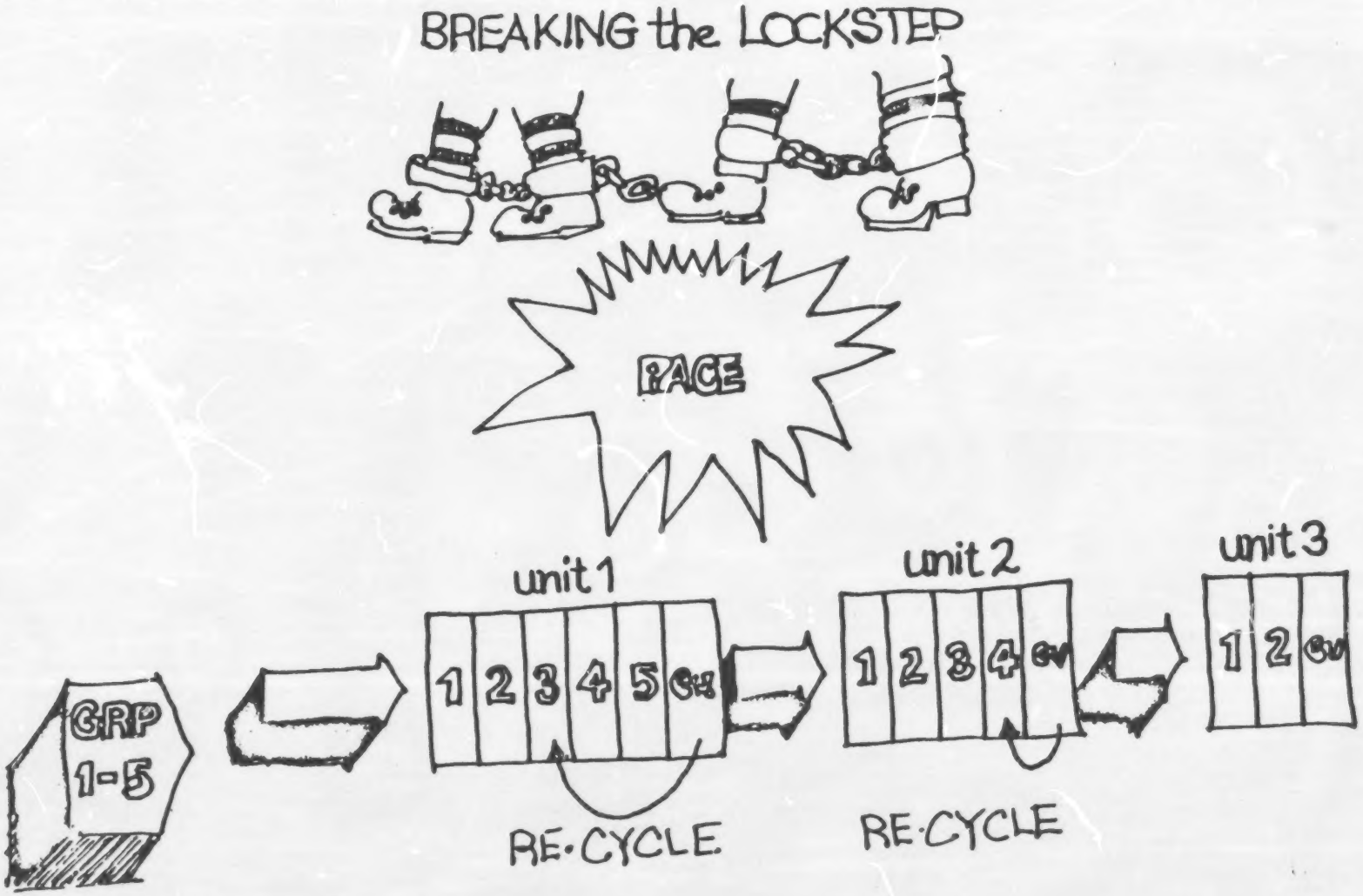
Model I

The first model (Figure 7) has been designed to encourage pupils to proceed through previously defined units of instruction at varying rates. It is assumed that all pupils in the class need to master the same content. Objectives are defined and lessons are planned to enable all pupils to master all of the objectives.

In Unit 1, for example, five objectives have been identified and one individualized lesson plan has been designed to help the pupil achieve each of these objectives.

Prior to beginning work on each unit, the pupil takes a pre-test. That test may indicate that the pupil has already mastered the objectives of lessons one and three. If this is the case, the pupil's prescription will call for him to study only lessons 2, 4, and 5.

FIGURE 7


BREAKING the LOCKSTEP
PACE
unit 1
unit 2
unit 3
GRP 1-5
1 2 3 4 5 CU
1 2 3 4 CU
1 2 CU
RE-CYCLE
RE-CYCLE

13

Once the pupil completes the work of a unit he/she is given a test. If the test shows that all of the objectives of the unit have been mastered, the pupil proceeds to the next unit. If the test shows that one or more objectives have not been mastered the prescription will define for the pupil additional learning activities. The pupil continues to work on all objectives of the unit until they are mastered.

This type of curriculum provides for individual differences in learning rate. It does not, however, provide for individual differences in content. It is assumed that the pre-determined objectives are equally important for all pupils in the class.

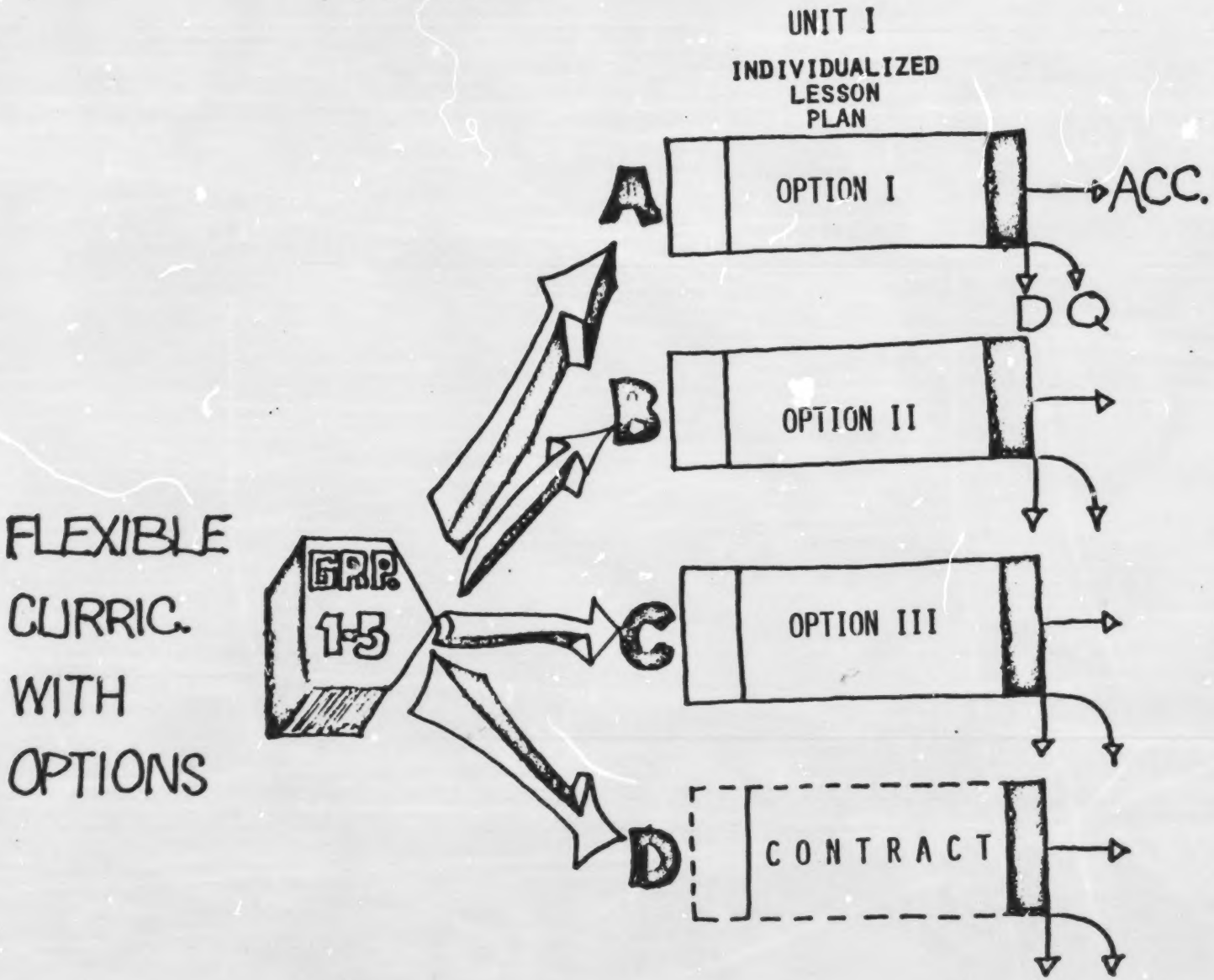
This assumption may well be true if the course is composed of objectives which are generally accepted as "basic" or "essential" to further learning in school.

Model II. The Flexible Curriculum with Options

Not only is it possible to organize the curriculum for individualized pacing, it is also possible to organize it in such a way that the individual can be given content options. (See Figure 8). A student, for example, may be offered the opportunity of studying one of four units on, say, the subject of water pollution. Unit A might emphasize the water pollution difficulties from the point of view of governmental control. Unit B may examine the problem from the scientific point of view, stressing the effect of water pollutants on the life cycle. Unit C might concentrate on specific local water pollution problems. Unit D might be an invitation to the learner to design a contract to study that aspect of the problem which concerns him most.

If the student elects Unit D, your faculty has struck pay dirt. Teachers now have an opportunity to teach pupils not only about an important international problem, but also how to organize and evaluate their own learning. At this point pupils have an excellent opportunity to learn how to learn.

FIGURE 8


UNIT I
INDIVIDUALIZED LESSON PLAN
FLEXIBLE CURRIC. WITH OPTIONS
GRP. 1-5
A
B
C
D
OPTION I
OPTION II
OPTION III
CONTRACT
ACC.
D Q

In the contract the pupil would suggest an approach to the subject of pollution which is of special interest to him. The pupil and his teacher would then develop a work plan which would define objectives and learning activities.

An important part of the contract would be a description of how the learning experience would be evaluated. Evaluation might be through a written report, an oral report, a check-list, or a teacher-constructed test.

Contracts can be helpful in other ways also.

Let's take a closer look at the contents of an individualized lesson plan (Figure 9).

Such a lesson plan is similar in format to plans for group instruction. The main difference is this: A group instruction plan is primarily a plan for the teacher - outlining what the teacher will do to teach a particular unit of instruction. The individualized lesson plan describes what a pupil will do. The plan is handed to the pupil and he uses it to guide his learning activities.

Firstly, of course, the unit should have a title which communicates to the learner the concept or topic to which the learning activities relate or the skill which the unit is designed to teach.

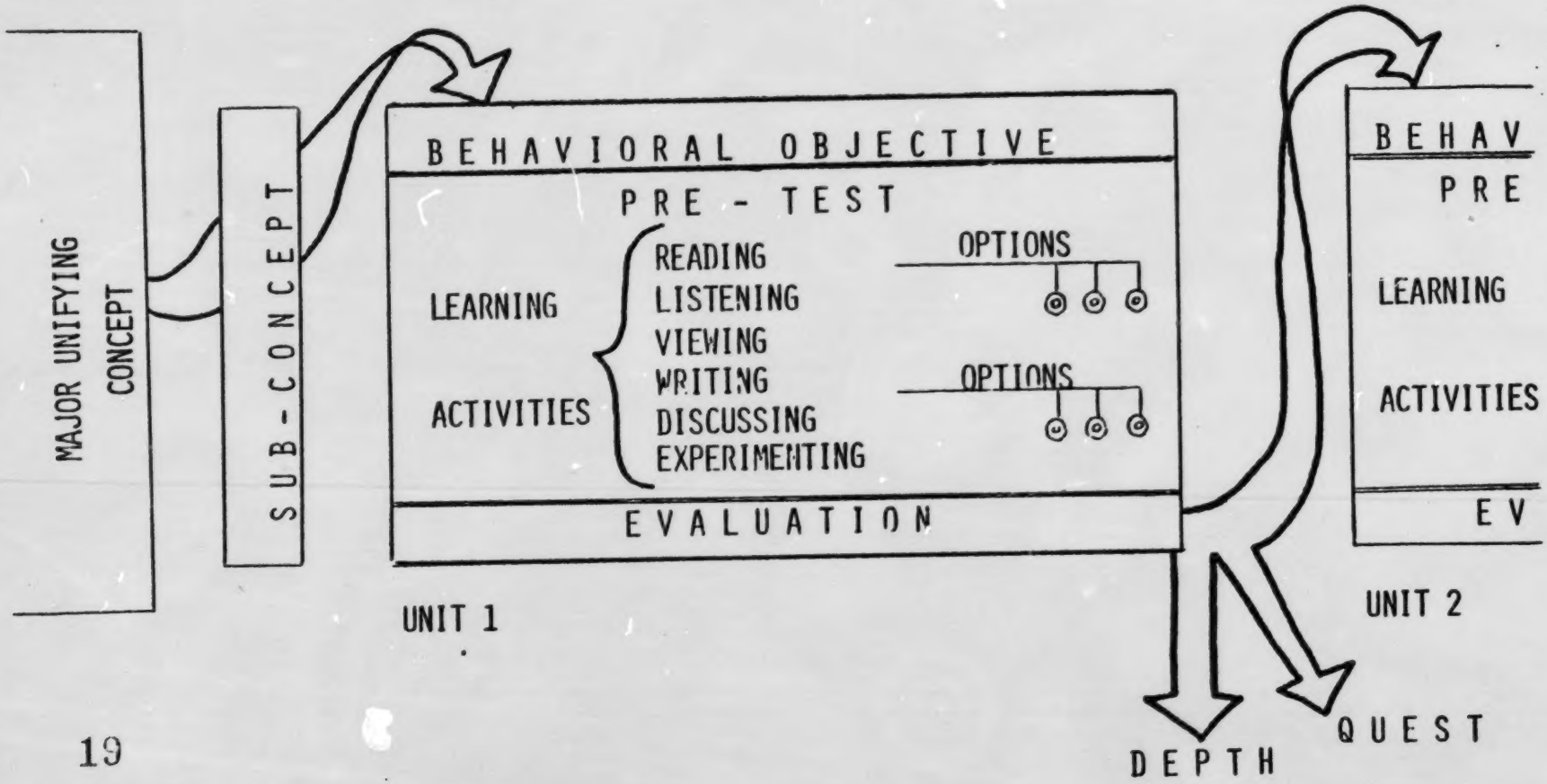
Secondly, the oojective or objectives for the unit are stated so that learners will know what learning outcomes they will be working towards as they proceed through the unit.

Thirdly, (not shown on the visual) may be a statement of rationale -- usually consisting of one or two paragraphs which suggest to learners a number of reasons why achieving the unit's objectives might be valuable to them. The rationale attempts to answer the always-present learner's question, "Why should I learn this?"

Fourthly, many individualized lesson plans contain a pre-test. This test may be a part of the lesson plan or it may be on a separate piece of paper. If it is on a separate piece of paper, the lesson plan will simply instruct the pupil to

FIGURE 9

CONTINUOUS PROGRESS
UNIT OF INSTRUCTION



ask for the pre-test from his teacher or from the clerk in the resource center. The purpose of the pre-test is to determine to what extent the learner has already mastered the stated objectives.

The fifth major part of the lesson plan outlines a variety of learning activities designed to help the student achieve the stated objectives. Activities may include reading assignments, listening, viewing or writing assignments, discussion options, game playing, experimenting, or object manipulating -- the possibilities are limited only by the ingenuity of the staff.

Options and requirements in regard to each of these kinds of activities are carefully defined. For example, the pupil may be told that all pupils proceeding through the unit should read Chapter 10 of such and such a textbook and should listen to tape #376 which is an oral introduction to the unit by the teacher. For the main part of the reading assignment the pupil may be presented with three reading lists and told that he is expected to read one selection from each list. Or, if the lists are compiled in accordance with different reading levels, the pupil may be asked to choose three selections from either level A (most difficult), level B (average), or level C (least difficult).

Likewise, options for pupils can be identified for other kinds of learning activities such as listening, viewing, writing, discussing, game playing, or experimenting.

The sixth major part of the individualized lesson plan is evaluation. Evaluation in an individualized program usually includes a conference with a teacher. It may also include a variety of other evaluative activities such as the writing of a paper evaluating the unit's work or taking a test. At this point, if the teacher wished to do so, he may assign a traditional A, B, C, or D grade to the unit's work.

The evaluative conference should be designed in such a way that the pupil, in light of his achievement, makes a decision either (1) to cycle himself back through

some of the learning activities to improve his achievement level, (2) accept a depth option, (3) accept a quest option, or (4) proceed to another unit in the sequence.

Regardless of which of the first three of these options is agreed upon, the pupil at this point would benefit from a contract. This contract may be written by the teacher and accepted by the pupil (depth study). In this case the pupil studies a topic in depth in a manner defined by the teacher. Or the pupil may choose to participate in planning his own learning experiences. In this case we say that the pupil is engaged in quest. The approach used will depend primarily on the ability of the pupil to assume the responsibility to plan his own work.

It is important to note that the contract can be an effective device to teach pupils to become responsible, independent learners. Pupils who can define their own objectives, plan their own learning objectives, and evaluate the results have not only learned the contents of the lessons. More importantly they have learned how to manage their own learning - perhaps the most basic of all skills.

Prescriptions and contracts, then, must be viewed as essential devices for managing an individualized program. The prescription is an essential tool for assuring pupil mastery of essential basic skills. The contract is a tool which can enable pupils to proceed far beyond minimal essentials. It is the basic tool which makes excellence possible. Through the contract pupils can pursue quest - which B. Frank Brown [1] has defined as "the special feeling which sends the student on his way to study for the sheer joy of learning." Quest, according to Brown, "has the wonderful objective of encouraging students to reach the outer limits of their thinking."

[1] Brown, B. Frank, Education by Appointment, West Nyack, New York, Parker, 1968, p. 56.

II. Case Histories of Two Programs - Ridgewood High School and Roosevelt Junior High School (Colorado Springs) and a Description of Some Exemplary Materials

1. What is Happening at Ridgewood?

Ridgewood High School is a senior high school located in Norridge, Illinois, a Northwest suburb of Chicago. The school was one of the first in the country to individualize instruction through extensive use of prescriptions and contracts.

When Ridgewood first developed its individualized curricula, over ten years ago, I was the school's principal. Since I left the school in 1967, many curricular improvements and refinements have been made.

Highly individualized programs are now offered in mathematics, social studies, English, foreign languages (especially Spanish), homemaking, art, and science. Most individualized learning takes place in learning laboratories especially designed to contain large quantities of learning materials and to accommodate individuals and learning teams working on prescriptions and contracts. One of these learning areas - the media center - humanities resource center, is approximately the size of a football field. One science laboratory will accommodate 50 pupils working on combinations of individual study and conventional class work. Faculty members are especially proud of a "Learning to Learn" course for freshmen designed to teach pupils how to assume as much responsibility as possible for their own learning. The faculty is also proud of the extent to which learning contracts encourage pupils to use a wide variety of community resources.

The Ridgewood math program is representative of diagnostic - prescriptive - type programs found in many countries. It operates in a large laboratory which can accommodate up to 70 pupils seated at tables and chairs and at study carrels. A teacher work area and a large materials storage area are a part of the facility.

At first glance, a Ridgewood math unit somewhat resembles a piece of a conventional workbook. There are important differences, however.

The cover of each unit (Figure 10) is usually attractive, sometimes humorous. The code number on the cover identifies the course title, in this case Math I and the unit number, unit 12.

This particular unit is organized into five parts, as follows: (See Figure 11)

1) Definition of the over-all concept, in this case "arithmetic operations involving fractions".

2) A list of learning objectives.

3) A list of "best resources" which can be found in the learning laboratory.

4) A series of worksheets, each sheet related to one of the objectives. Some of the worksheets contain basic information in addition to presenting problems to be solved, and

5) A self test which pupils can take to determine whether or not they are ready for the unit test. Please note Figure 12. From the introductory paragraph of this self test you can see how such a test can be used as a prescription. The introduction states "If you miss both questions a and b of any one number, you're in trouble and should go back and restudy that objective."

Please note that the pupil is given the answers to the test items so that he can check his own work. Through the simple device of the self test the teachers encourage pupils to do their own prescribing prior to taking the main unit test.

On completion of the self test the pupil proceeds to the testing area of the laboratory where a teacher or an aide gives him the unit test. If the pupil does not demonstrate mastery of an objective on the unit test, he is given a prescription to restudy it. He is retested until mastery of all nine objectives is demonstrated.

This and similar teacher-designed programs at Ridgewood resulted from months - even years of planning.

FIGURE 10

RIDGEWOOD HIGH SCHOOL
NORRIDGE, ILLINOIS

"WELL, CHARLES, I'M AFRAID THAT REDUCING FRACTIONS BY THIS METHOD COULD BE HAZARDOUS TO YOUR GRADE."

MATH I
CODE: M12

RS/EP (75-76)

FIGURE 11

ORGANIZATION OF A RIDGEWOOD MATH UNIT

1. DEFINITION OF OVER-ALL CONCEPT

2. LIST OF LEARNING OBJECTIVES

3. LIST OF "BEST RESOURCES"

4. WORK SHEETS - EACH SHEET RELATING TO ONE OBJECTIVE, AND

5. A SELF-TEST

FIGURE 12

SELF-TEST

THIS IS A SAMPLE OF WHAT YOUR TEST ON THIS UNIT MAY LOOK LIKE. YOUR TEST WILL PROBABLY BE LONGER AND HARDER. DO YOUR BEST AND CHECK YOUR WORK WITH THE ANSWERS PROVIDED AT THE END. FINISH THE TEST BEFORE YOU LOOK AT ANY ANSWERS.

IF YOU MISS BOTH QUESTIONS A AND B OF ANY ONE NUMBER, YOU'RE IN TROUBLE AND SHOULD GO BACK AND RE-STUDY THAT OBJECTIVE.

1. REDUCE A) $\frac{50}{150}$

   B) $\frac{144}{390}$

2. CHANGE THESE IMPROPER FRACTIONS TO MIXED NUMBERS

   A) $\frac{35}{8}$ B) $\frac{48}{17}$

3. CHANGE THESE MIXED NUMBERS TO IMPROPER FRACTIONS

   A) $6\frac{1}{7}$ B) $1\frac{9}{64}$

4. MULTIPLY THESE FRACTIONS. REDUCE ANSWERS TO LOWEST TERMS.

   A) $\frac{2}{3} \times \frac{5}{8}$ B) $2\frac{1}{7} \times 4\frac{5}{8}$

5. DIVIDE THESE FRACTIONS. REDUCE ANSWERS TO LOWEST TERMS.

   A) $\frac{2}{3} \div \frac{5}{8}$ B) $\frac{1}{7} \div \frac{5}{8}$

6. FIND A FRACTION WHICH IS EQUIVALENT TO THE GIVEN FRACTIONS AND WHICH HAS THE INDICATED DENOMINATOR.

   A) $\frac{3}{7} = \frac{\quad}{56}$ B) $\frac{39}{65} = \frac{\quad}{5}$

7) A) $\frac{8}{13} + \frac{6}{13} =$ B) $\frac{8}{13} - \frac{6}{13} =$

8) A) $\frac{2}{3} + \frac{1}{7}$ B) $\frac{5}{8} - \frac{3}{32}$

ANSWERS TO SELF-TEST

1.	A) $\frac{1}{3}$	B) $\frac{24}{65}$	PAGE 2, OBJECTIVE 2
2.	A) $4\frac{3}{8}$	B) $2\frac{14}{17}$	PAGE 2, OBJECTIVE 3
3.	A) $\frac{43}{7}$	B) $\frac{73}{64}$	PAGE 2, OBJECTIVE 4
4.	A) $\frac{5}{12}$	B) $\frac{555}{56}$	PAGE 2, OBJECTIVE 5
5.	A) $\frac{16}{15}$ OR $1\frac{1}{5}$	B) $\frac{120}{259}$	PAGE 2, OBJECTIVE 6
6.	A) $\frac{24}{56}$	B) $\frac{3}{5}$	PAGE 2, OBJECTIVE 7
7.	A) $\frac{14}{13}$	B) $\frac{2}{13}$	PAGE 2, OBJECTIVE 8
8.	A) $\frac{17}{21}$	B) $\frac{17}{32}$	PAGE 2, OBJECTIVE 9

IN ADDITION TO THIS SELF-TEST, YOU SHOULD ALSO REVIEW OBJECTIVE ONE.

I can recall that soon after the newly constructed school opened several years ago, a group of math teachers and I, during the summer vacation, designed one small math laboratory. In it we placed tables, chairs, cabinets and shelves for materials storage, and a variety of math textbooks. During the first year of its operation the room operated more like a study area than like a laboratory. Pupils were given explanations of how to work problems in a large group instruction area. They discussed math concepts and individual problems in scheduled small groups, and they did their homework in the math lab. The curriculum was a lockstep curriculum. Everyone was expected to learn the same skills at the same rate.

Gradually, with experience, teachers learned how to use individualized lesson plans. For several summers teachers were paid to work for several weeks developing curriculum syllibii and writing lesson plans.

During one summer a new, larger learning laboratory was designed by the math teachers. It was decided then that each math pupil would be scheduled for two 60 minute periods per week into the lab.

Gradually, then, the math curriculum evolved. What had begun as a conventional, lock-step curriculum evolved into a diagnostic-prescriptive individualized curriculum.

We did not buy any of the well-publicized commercially developed programs. We preferred to stock the laboratory with a wide variety of programs and materials so that if a pupil failed to reach an objective with one set of materials we could prescribe another set.

2. <u>What is Happening at Roosevelt School in Colorado Springs</u>

The Roosevelt School in Colorado Springs is a medium-sized (600 pupils) K-6 elementary school serving a middle class community in a city of 100,000 people. Several children in the Roosevelt School come from homes where both English and Spanish are spoken.

The school itself is new and attractive. It has been designed to provide a variety of learning spaces including some carpeted, flexible open space which invites individualized instruction.

I was attracted to the school by a report that a highly creative media center specialist had created an individualized program to teach the children how to use the library.

The media specialist, Mrs. Yvette Gallegos, is a highly energetic, vivacious, enthusiastic, creative teacher. She believes that all children should be challenged to assume as much responsibility for managing their own learning as possible. She loves the children a lot but she doesn't do things for them which they can do for themselves.

Yvette's materials are models of simplicity.

Her program, entitled, the "Media Olympics" consists of three units. On completion of Unit I, consisting of 17 lessons, the pupil receives a bronze medal. On completion of Unit II (25 lessons) the pupil receives a silver medal. On completion of Unit III the pupil receives a gold medal. As soon as a pupil earns a medal Yvette sends a letter of commendation to the parents.

The process for earning credit for a lesson consists of four steps:

Step 1: The pupil goes to a file drawer and checks out the individualized lesson plan for the lesson he wishes to study. The lesson plan is a large (12" X 16") cardboard laminated sheet, attractively illustrated and simply worded. Several of these lesson plans are reproduced in Figures 13 through 20. This lesson plan tells the pupil clearly and simply what he/she is expected to do.

Step 2: Accompanying each individualized lesson plan is a work sheet. On the work sheet the pupil is asked to respond to questions or to indicate that he has completed the learning activities prescribed in the lesson plan (See Figures 13 through 20).

FIGURE 13

SOUND STAGE

(LOCATION OF SOUND FILMSTRIPS) CHOOSE ONE FILMSTRIP AND ONE CASSETTE. (FILMSTRIP & CASSETTE OF LIBRARY).

DO THE FOLLOWING THINGS:

1. GET A FILMSTRIP VIEWER, A CASSETTE, TAPE RECORDER, AND A HEADPHONE.
2. PLUG THEM IN.
3. THREAD THE FILMSTRIP VIEWER.
4. PUSH THE EJECT BUTTON ON THE CASSETTE PLAYER.

5. INSERT THE CASSETTE.
6. PUT ON YOUR HEADPHONE, PUSH THE PLAY BUTTON, AND ADJUST THE VOLUME.
7. WHEN YOU HAVE FINISHED THE SOUND FILMSTRIP TURN OFF THE VIEWER AND CASSETTE PLAYER. REWIND THE FILMSTRIP.
8. PUT THE SOUND FILMSTRIP AND EQUIPMENT AWAY.

ANSWER THE QUESTIONS ON THE WORKSHEET. BE SURE TO WRITE YOUR NAME AND GRADE. PUT THE SHEET IN THE FOLDER MARKED WITH YOUR GRADE LEVEL.

FIGURE 14

PUPIL WORKSHEET FOR SOUND STAGE

I - 2 SOUND STAGE

1. WHAT WAS THE TITLE OF THE SOUND FILMSTRIP?

2. DID YOU START THE SOUND AT THE RIGHT TIME? YES _____ NO _____

3. DID YOU REMEMBER TO SHUT OFF THE LIGHT SWITCH ON THE PROJECTOR?

   YES _____ NO _____

4. WAS THE EQUIPMENT PUT AWAY PROPERLY? YES _____ NO _____

5. WERE YOU ABLE TO PUT THE SOUND FILMSTRIP AWAY IN ITS CORRECT PLACE?

   YES _____ NO _____

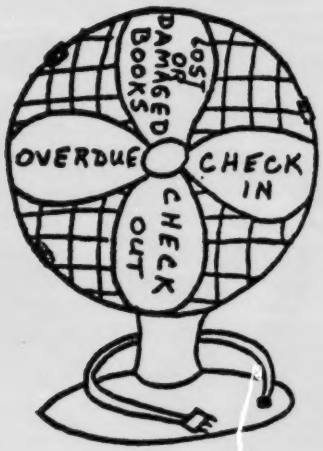
NAME _____

ROOM # _____ GRADE _____

FIGURE 15

BE A FAN OF THE RESOURCE CENTER

LEARN TO CIRCULATE



ALL BOOKS MAY BE CHECKED OUT FOR ONE WEEK. PUT YOUR NAME AND ROOM NUMBER ON THE CHECK OUT CARD.

1ST AND 2ND GRADERS MAY CHECK OUT ONE BOOK. 3RD THROUGH 6TH GRADERS MAY CHECK OUT ONE BOOK. OVERDUE BOOKS ARE ANY BOOKS THAT ARE NOT RETURNED ON TIME. THIS IS BAD BECAUSE IT PREVENTS OTHERS FROM READING THE BOOK. A LOST OR DAMAGED BOOK MUST BE PAID FOR. A BOOK MAY BE RENEWED TWICE.

FILL OUT THE CIRCULATION CARD AND ANSWER THE QUESTIONS ON THE WORKSHEET. BE SURE TO WRITE YOUR NAME AND GRADE. PUT THE SHEET IN THE FOLDER MARKED WITH YOUR GRADE LEVEL.

FIGURE 16

PUPIL WORKSHEET FOR BE A FAN

I - 4 LEARN TO CIRCULATE

WIL WILDER, LAURA	
THE LONG WINTER	
DATE DUE	BORROWER'S NAME

HOW MANY BOOKS MAY YOU CHECK OUT?

ONE _____ TWO _____

HOW LONG MAY YOU KEEP A BOOK OUT?

_____

A LOST OR DAMAGED BOOK MUST BE PAID FOR. YES ____ NO ____

TO RENEW A BOOK MEANS TO CHECK IT OUT AGAIN. YES ___ NO ___

FILL OUT THE CARD ABOVE AS IF YOU ARE CHECKING OUT THE BOOK.

NAME _____

ROOM # _____ GRADE _____

FIGURE 17

THE NAME OF THE GAME:

MAKE A HOME RUN

YOU CAN'T GET TO FIRST BASE IN FINDING A BOOK UNLESS YOU KNOW ITS NAME (TITLE) AND ITS AUTHOR.

THE TITLE GIVES YOU THE NAME OF THE STORY OR TELLS YOU WHAT THE BOOK IS ABOUT.

THE AUTHOR IS THE NAME OF THE PERSON WHO WROTE THE BOOK.

THERE ARE FOUR BOOKS ON THE SHELF. SEE IF YOU CAN MAKE A HOME RUN BY WRITING THE TITLE AND AUTHOR FOR EACH BOOK.

PUT YOUR ANSWERS ON THE WORKSHEET. BE SURE TO WRITE YOUR NAME AND GRADE. PUT THE SHEET IN THE FOLDER MARKED WITH YOUR GRADE LEVEL.

FIGURE 18

PUPIL WORKSHEET FOR THE NAME OF THE GAME

I - 6 THE NAME OF THE GAME: MAKE A HOME RUN

1ST BASE: TITLE _____

AUTHOR _____

2ND BASE: TITLE _____

AUTHOR _____

3RD BASE: TITLE _____

AUTHOR _____

HOME RUN: TITLE _____

AUTHOR _____

NAME _____

ROOM # _____ GRADE _____

FIGURE 19

A BOOK TALKS BACK*

THERE ARE SOME THINGS
WE SHOULD ALL REMEMBER
IN READING AND HANDLING
BOOKS -- LET'S LISTEN TO
THE CASSETTE TAPE TO SEE
WHAT IT HAS TO SAY.

ANSWER THE QUESTIONS ON THE
WORKSHEET. MAKE A BOOKMARK.
BE SURE TO WRITE YOUR NAME
AND GRADE. PUT THE SHEET
IN THE FOLDER MARKED WITH
YOUR GRADE LEVEL. KEEP
YOUR BOOKMARK. USE IT.

* WITH A LITTLE HELP FROM A FRIEND

FIGURE 20

PUPIL WORKSHEET FOR A BOOK TALKS BACK

I-5 A BOOK TALKS BACK

1. LIST THREE THINGS YOU SHOULD DO IN TAKING CARE OF A BOOK.

_____

_____

_____

2. SEE THE LIBRARIAN TO GET MATERIALS TO MAKE A BOOKMARK.

3. I HAVE COMPLETED MY BOOKMARK. YES _____ NO _____

NAME _____

ROOM # _____ GRADE _____

Step 3: As soon as the pupil has completed the learning activities he writes his name, room number, and grade on the work sheet and places it in an "in-folder" in the filing cabinet.

Step 4: At the end of each day, Yvette reads all the work sheets. If the work is satisfactory the pupil receives credit for the lesson and the lesson number is crossed off the pupil's Individual Record Card (Figure 21). If the lesson is not satisfactorily completed Yvette writes the pupil a "See Me" note. When the pupil sees Yvette the following day, she prescribes for the student additional learning activities. When Yvette is completely satisfied that the learner has mastered all of the objectives of the lesson, she gives him credit for the lesson on the Individualized Record Card.

This system is exemplary because of its simplicity. It is a good example of how a creative teacher, given encouragement, can develop individualized learning materials of extremely high quality.

It has been about a year since Yvette learned about the Media Olympics concept at a workshop for media center specialists. Last year she decided to try out the idea with several experimental units. This last summer she completed the materials for Unit I and the first draft of materials for Unit II. She is still working on the specifics of Unit III.

She reports that developing a program such as this is a lot of work. Once a unit is in operation, however, the system functions smoothly, requiring only a small amount of her time each day to grade work sheets and to meet with individual pupils.

All media center specialists in the city are now developing individualized programs based on the Media Olympics model.

3. Case History of a Commercially Published Program

One exemplary individualized program, published in Madrid, is of such high quality that I would like to describe it to you briefly.

FIGURE 21

PUPIL'S INDIVIDUALIZED RECORD CARD

(FRONT OF CARD)

NAME _____

UNIT I

1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17

UNIT II

1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	
17	18	19	20	21	22	23	24	25

(REVERSE OF CARD)

NAME _____

UNIT III

1	2	3	4	5	6	7	8	
9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35
36	37	38	39	40	41	42	43	44

The materials for this program were prepared under the leadership of Dr. Eutiquio Pena Rica, a well-known scholar and writer. They are published by Editorial Marsiega, S. A., Acebo, 54, Madrid 16. They are appropriate for primary and early intermediate levels (ages 6-11). The materials are easy to use, attractively printed and packaged, and almost completely self-instructional. They may be used by individual pupils or by small learning teams of 3-5 pupils. The materials have not been designed for conventional classroom use; they can, however, be used as conventional workbooks if the teacher is not trained in individualized instruction techniques.

Each unit of instruction with these materials contains the following characteristics:

1) Each unit concentrates on one concept, such as "My friends", "Towns and Cities", "Water", or "Foods".

2) The topic is studied from the point of view of several disciplines. By the time the pupil completes the unit on Towns and Cities, for example (Level 2, Unit 5), he has studied the topic from the point of view of social and natural science, mathematics, language arts, and religion. (Religions learning activities can be deleted when materials are used in schools where religion is not taught). Activities are also prescribed in art and music.

These units, then, are both concept-centered and interdisciplinary.

3) The pupil develops a two-week work plan for completing the unit. He records this plan on Page 1 of the workbook (See Figure 22).

4) The pupil keeps track of his own progress by checking off each planned activity as soon as it is completed, and

5) At the end of each unit the pupil completes a self-evaluation form ("autoevaluacion). On this form the pupil responds to two basic questions: (Figure 23).

-- How many of the activities have I completed? and How well did I do the work?

FIGURE 22

PROGRAMA QUINCENAL DEL ALUMNO .....

MES	DIA	ACTIVIDADES PARA LA PRIMERA SEMANA	REALIZADAS SI/NO
LUNES			
MARTES			
MIERCOLES			
JUEVES			
VIERNES			
SABADO			

ACTIVIDADES PARA LA SEGUNDA SEMANA

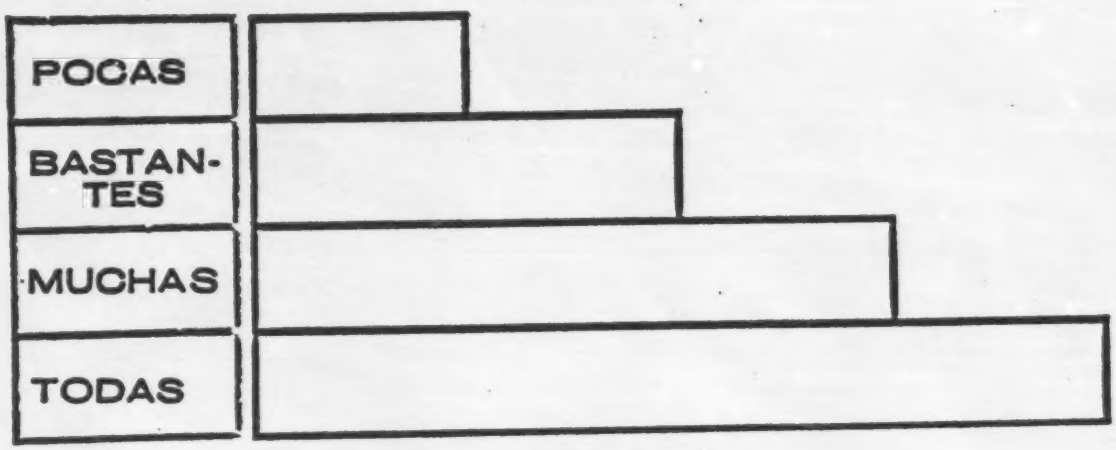
LUNES			
MARTES			
MIERCOLES			
JUEVES			
VIERNES			
SABADO			

FIGURE 23

AUTOEVALUACION

¿COMO HE CUMPLIDO MI PROGRAMA?

ACTIVIDADES TERMINADAS



¿COMO LAS HE HECHO?

REGULAR

BIEN

MUY BIEN

PAGINAS QUE DEBO REPASAR Y MEJORAR

_____

_____

_____

The pupil, usually with the help of the teacher then writes a prescription listing "pages which I should review and improve."

These materials are of interest both for their format and for their content. They encourage pupils to proceed through a series of previously designed learning activities at their own rate. Unlike many workbooks, they contain a wide variety of activities including activities in art and music. The materials are unique because they teach pupils to plan and evaluate their own work and to write their own learning prescriptions.

Available with the series of notebooks and individual pupil worksheets ("fichas") is a series of "Guides for the Teacher". These guides enable the teacher who is inexperienced in individualized instruction to use the materials effectively.

You may obtain further information about this series and samples of various units by writing to the publisher.

IV. SUMMARY OF RESULTS

Ridgewood High School has been using individualized curricula with prescriptions and contracts since 1962. The experience of the Ridgewood faculty with these concepts has convinced them that pupils have benefited in at least six ways:

1) Pupils have grown substantially in their capacity to plan and evaluate their own learning. Ridgewood graduates who continue their education at colleges and universities report that the study skills they learned in high school were of great benefit to them in college.

2) Learners of low ability and low motivation responded positively to individualized instruction. Many pupils who had been unsuccessful in group instruction classrooms became productive learners in individualized laboratories.

3) It was discovered that even pupils of very low academic ability could assume much responsibility for their own learning. Both prescriptions and contracts have been used successfully with learners of all ability levels.

4) General pupil achievement, as measured by standardized tests, has been higher than might be expected in a school serving a middle class community, and

5) Highly capable, motivated pupils have been able to progress more rapidly to advanced work than would have been possible in non-individualized courses.

Yvette Gallegos at the Roosevelt School in Colorado Springs is enthusiastic about the results of her individualized program to teach library skills. She sees the following outcomes of her program:

1) Pupils have grown significantly in self-reliance. Pupils who formerly asked strings of trivial questions now find materials easily and use media equipment with confidence.

2) By individualizing the instruction Mrs. Gallegos was able to encourage able learners to proceed rapidly to more advanced lessons. These able pupils were not held back by the less able.

3) By freeing herself from group instruction, Mrs. Gallegos is now able to spend more time with individual pupils.

4) As pupils learn more library media skills they tend to use the library more. Mrs. Gallegos believes that pupils read more after they learn how to find what they are looking for, and

5) Junior high school librarians report that pupils who have come from Roosevelt School are more capable of using the resources of the media center than are pupils from elementary schools where library-media skills are not taught.

The materials from Editorial Marsiega in Madrid have been successfully field tested and are widely used in Spain. According to author Eutiquio Pena Rica, the materials are extremely effective when they are properly used. Many teachers, however, have not been trained to manage individualized programs. These teachers will experience difficulty in utilizing the materials unless they receive training on the methods of individualization.

V. SUGGESTIONS FOR USING PRESCRIPTIONS AND CONTRACTS TO INDIVIDUALIZE INSTRUCTION

Following are a number of suggestions for using prescriptions and contracts which you may find helpful. Individualized instruction programs are not always successful. When they fail, it is usually because one or more of these suggestions was not followed:

1) Keep the system simple, especially in the beginning stages. Individualized lesson plans should seldom require more than two pages. One is better. Likewise keep contracts to a single page.

2) Acquire a wide diversity of learning materials. If you must have a required text for a course, supplement it with materials from which pupils with varying learning styles can benefit. Use audio-visual materials, games and simulations and manipulative materials as well as reading materials.

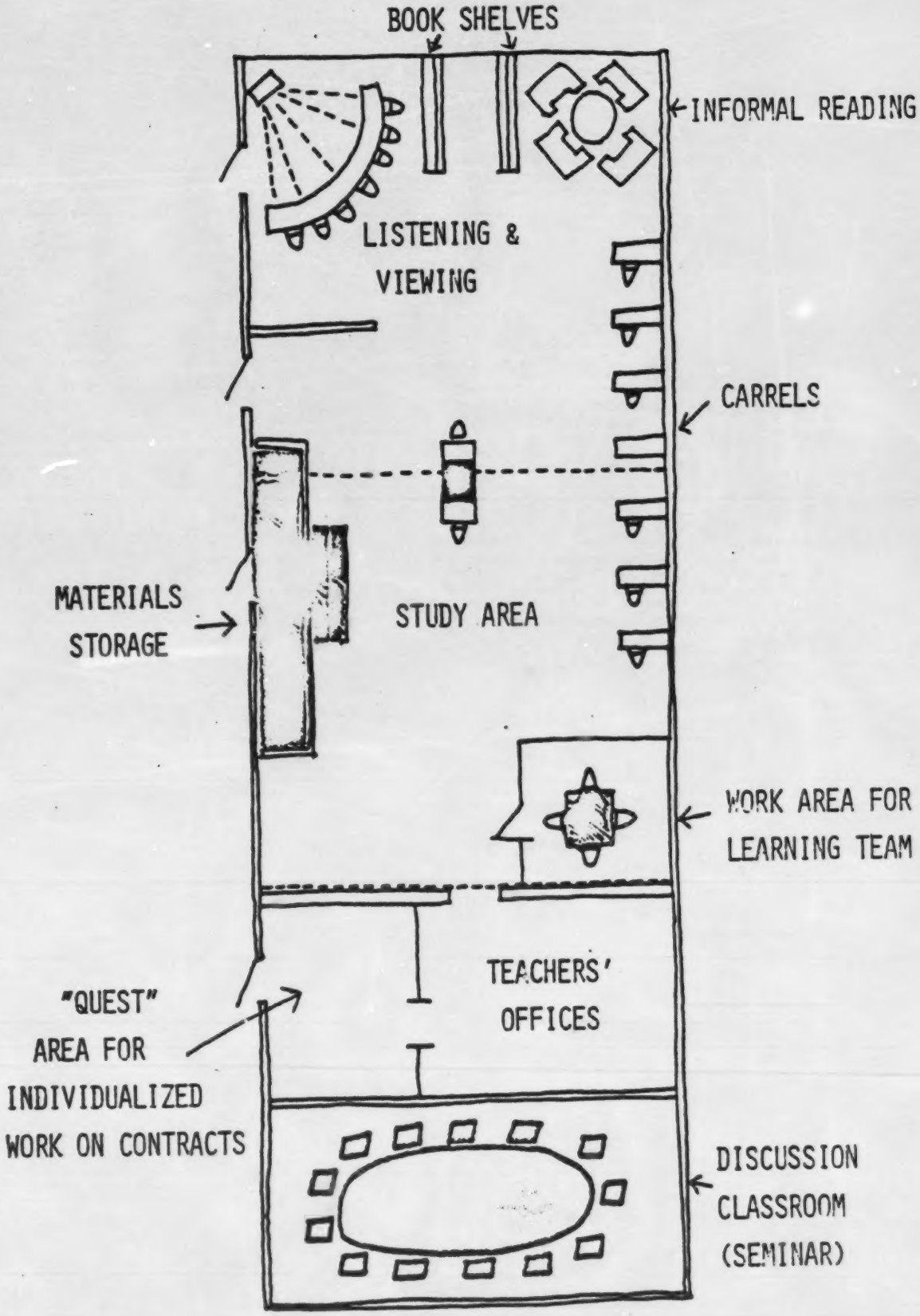
3) Teach pupils on contracts how to use the materials in the library-resource center as well as those in the classroom or laboratory.

4) You may begin your program in a few classrooms with receptive teachers. As these few individuals learn how to manage individualized programs they can convince others of the value of the approach. Individualized instruction usually cannot be mandated.

5) Provide teachers who will initiate the individualized programs with inservice education and with time to prepare lesson plans.

6) Programs can begin in the conventional classroom setting with a single teacher and a single class. As the program grows, however, the classroom setting will become increasingly confining. At later stages of program development plan to build some learning laboratories which will be large enough to accommodate a large group of learners and a team of teachers. Figure 24 illustrates how such a laboratory can be constructed by converting three conventional classrooms.

FIGURE 24


BOOK SHELVES
INFORMAL READING
LISTENING &
VIEWING
CARRELS
MATERIALS
STORAGE
STUDY AREA
WORK AREA FOR
LEARNING TEAM
TEACHERS'
OFFICES
"QUEST"
AREA FOR
INDIVIDUALIZED
WORK ON CONTRACTS
DISCUSSION
CLASSROOM
(SEMINAR)

7) Design a simple record-keeping system. Pupil work can be filed in individual folders in a file drawer. Records of work done can be kept on a wall chart or a teacher record book. Figure 25 is a reproduction of the type of wall chart used in the new Denver Career Center. Keep paper work to a minimum. Paper work is the greatest enemy of individualized instruction. Much valuable learning takes place which does not produce papers to grade.

8) When writing an individualized lesson plan, concentrate on describing what pupils are to do. Don't make the common mistake of trying to write a textbook chapter. Teachers are not authors of textual material. The lesson plan encourages the pupil to utilize published materials prepared by others. One school I know of prepared unit syllabii for pupils that were 40-50 pages in length. Preparing these materials wore out the teachers. The length of the lesson plans discouraged all but the most highly motivated pupils. For pupils who are not highly motivated, keep lesson plans to a single page.

9) Build incentives into your plan to encourage pupils to enter into contracts. Contracts must not be viewed by pupils as "extra" work. A contract to pursue a topic in depth should receive as much or more recognition and credit as any teacher-assigned lesson in the prescribed curriculum.

10) Evaluate the work of pupils in such a way that they learn how to evaluate their own work.

11) Report to parents frequently specifically what the pupil has learned and how well he has learned it. Individualized instruction programs require individualized reporting to the learner and to parents.

Program _____

Course _____

Unit _____

Units Completed

Pupil's Names

DENVER PUBLIC SCHOOLS FIGURE 25 CAREER EDUCATION CENTER

VI. SUMMARY

Two major objectives of individualized instruction are:

-- to assure the mastery of basic, essential competencies by all pupils, and

-- to teach pupils how to plan and evaluate their own learning so that they can continue to learn when they no longer have a school to help them.

A key tool for achieving the first objective is the teacher's prescription for learning activities. Such a prescription is based on a diagnosis of learner needs.

A key tool for achieving the second objective is the learning contract which enables pupils to participate in decisions about what they will learn, where they will learn, how they will learn, and who will help them learn.

I am convinced that we must stop doing things for pupils which they can learn to do for themselves. Responsibility must be practiced to be learned.

Perhaps the greatest achievement of the educator is teaching the learner in such a way that he no longer will need a teacher.